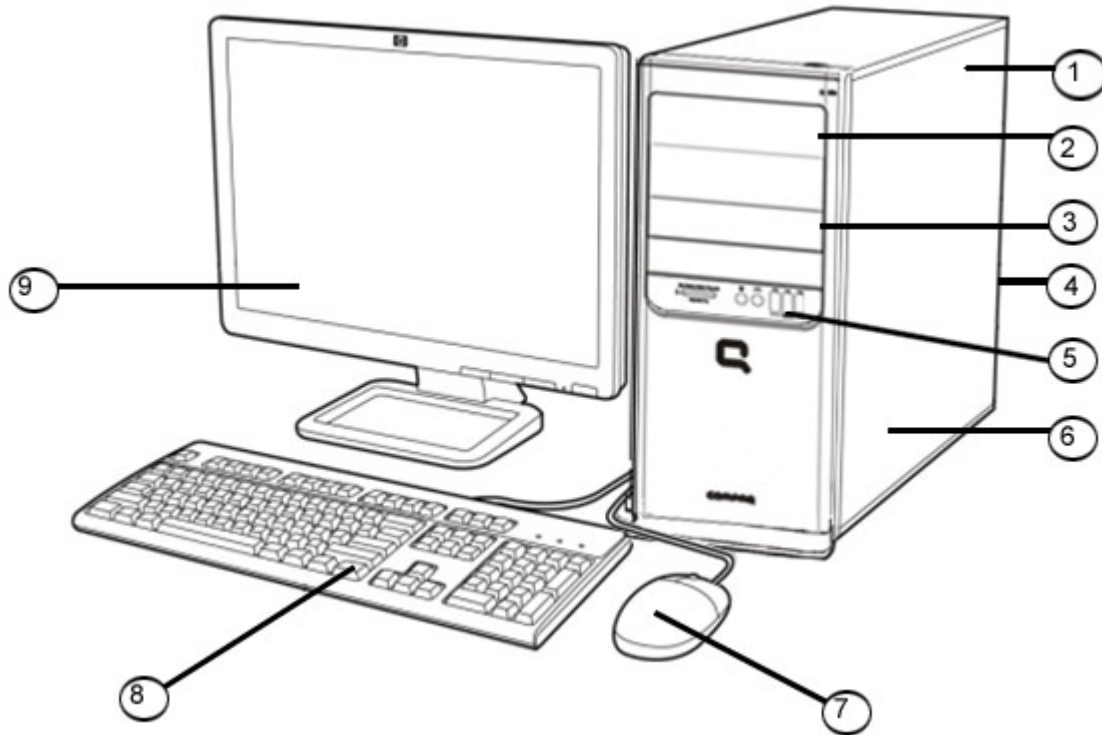


### Overview



- |                                                                                                                 |                                                          |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| 1. 180-watt power supply                                                                                        | 6. Full height expansion slots include PCIe x1 slots (2) |
| 2. (1) external 5.25-inch bay for optional optical drive                                                        | 7. Compaq USB Optical Scroll Mouse                       |
| 3. (1) internal 3.5-inch bay for hard disk drive                                                                | 8. Compaq USB Standard Keyboard                          |
| 4. Rear I/O includes (4) USB 2.0 ports, RJ-45 network port, VGA video port, audio in/out jacks, microphone jack | 9. Monitor (sold separately)                             |
| 5. Front I/O includes (3) USB 2.0 ports, audio in/out jacks, Media Card Reader                                  |                                                          |

### At A Glance

- AMD Athlon II X2 Processor
- Choices of Operating systems:
  - Genuine Windows 7 Professional Edition 64\*
  - FreeDOS
- AMD 760G Chipset
- DDR3 SDRAM PC3-10600 (1333 MHz) non-ECC system memory
- ATI Radeon 3000 Graphics
- PCI and PCI Express I/O buses
- Serial ATA controller
- USB 2.0 support
- Realtek RTL8105E 10/100Mbps Ethernet Controller
- Choice of hard drives
- Protected by HP Services. Terms and conditions vary by country. Certain restrictions and exclusions apply.



Standard Features and Configurable Components (availability may vary by country)

### Processor and Speed

One of the following

AMD Athlon II Dual Core Processors with HyperTransport Technology:

AMD Athlon II X2 215 Processor (2.7 GHz, 2MB L2 cache, HT bus 3.0)

### Operating Systems and Application Software

(availability varies by region)

#### Preinstalled

Genuine Windows 7 Professional Edition 64\*

FreeDOS

\* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality.

See: <http://www.microsoft.com/windows/windows-7/> for details.

+ Windows 7 Professional disk may also be included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order annually at least 25 customer systems with the same custom image.

2007 Microsoft Office Ready PC

PDF Complete

CyberLink LabelPrint

CyberLink Power2Go

LightScribe Runtime

HP Vision Diagnostics

Corel WinDVD

CyberLink Recovery Manager

McAfee Total Protection - Small Business

+ + Supporting software available with certain optical drive configurations

### Hard Drives

320-GB Serial ATA 3.0-Gb/s NCQ, Smart IV (7200 rpm)

500-GB Serial ATA 3.0-Gb/s NCQ, Smart IV (7200 rpm)

640-GB Serial ATA 3.0-Gb/s NCQ, Smart IV (7200 rpm)

750-GB Serial ATA 3.0-Gb/s NCQ, Smart IV (7200 rpm)

### System Memory

2-GB DDR3 Synch DRAM 1333-MHz Non-ECC (2 x 1GB)

2-GB DDR3 Synch DRAM 1333-MHz Non-ECC (1 x 2GB)

3-GB DDR3 Synch DRAM 1333-MHz Non-ECC (1 x 2GB, 1x1GB)

4-GB DDR3 Synch DRAM 1333-MHz Non-ECC (2 x 2GB)

**NOTE:** For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. The actual memory speed for DDR3 SDRAM depends on the maximum speed supported by the processor; for example, it may be limited to 1066 MHz.

### Optical Drive

SATA SuperMulti LightScribe DVD Writer Drive



*Standard Features and Configurable Components (availability may vary by country)*

### Input Devices

#### Keyboard

Compaq USB Standard Keyboard

#### Mouse

Compaq USB Optical Scroll Mouse

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### Audio

ALC662-VC1 5.1 channel codec

3D audio compliant and HD Audio compatible

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### Communication

Realtek RTL8105E 10/100Mbps Ethernet Controller

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### Graphics

ATI Radeon 3000 Graphics



### System Details

#### Base Unit

- Micro ATX microtower chassis, including power supply and front bezel
- Two (2) drive bays and two (2) expansion slots
- Active type heatsink
- System board with AMD 760G chipset, Realtek RTL8105E 10/100 Ethernet controller, ATI Radeon 3000 graphics, and Realtek audio, (2) PCIe x1 slots, (2) DDR3 DIMM memory slots, (4) Serial ATA data connectors
- Product documentation on HDD Image
- HP system restore thru HDD restore
- Power cord

|       |                  |                                                             |
|-------|------------------|-------------------------------------------------------------|
| Slots | PCI              | Two (2) full-height PCIe x1 slots                           |
|       | Memory Expansion | Two (2) DDR3 SDRAM DIMM slots (4 GB maximum memory support) |

|      |          |               |
|------|----------|---------------|
| Bays | Internal | One (1) 3.5"  |
|      | External | One (1) 5.25" |

|             |                                                                                    |
|-------------|------------------------------------------------------------------------------------|
| USB Support | EHCI high-speed USB 2.0 controller                                                 |
|             | Three (3) front ports; Four (4) rear ports, Two (2) internal ports on system board |

|            |                                                                                                  |
|------------|--------------------------------------------------------------------------------------------------|
| Interfaces | Front: (3) USB 2.0 ports, audio in/out jacks                                                     |
|            | Rear: (4) USB 2.0 ports, RJ-45 network port, VGA video port, audio in/out jacks, microphone jack |

|                     |                                    |                                              |
|---------------------|------------------------------------|----------------------------------------------|
| Weight & Dimensions | Chassis Dimensions<br>(H x D x W)  | 373 x 365 x 165mm<br>14.68 x 14.37 x 6.49 in |
|                     | Packaged Dimensions<br>(L x H x W) | 585 x 498 x 245mm<br>23.03 x 19.61 x 9.65    |
|                     | System Weight                      | 22.4 lb (10.2 kg)                            |
|                     | Shipping Weight                    | 30.8 lb (14.0 kg)                            |

|                         |                                    |                                                                                      |
|-------------------------|------------------------------------|--------------------------------------------------------------------------------------|
| Technology and Features | Memory Type                        | PC3-10600 DDR3 SDRAM (1333MHz) non-ECC<br>Up to 4-GB maximum system memory supported |
|                         | Hard Drive Interfaces<br>Supported | Serial ATA                                                                           |



### System Details

|         |                             |                                                                                                 |
|---------|-----------------------------|-------------------------------------------------------------------------------------------------|
| Chassis | Front Panel                 | Power button<br>Power On LED<br>HDD Activity LED                                                |
|         | Cooling Solutions Supported | Power Supply Fan (variable speed)<br>Active heatsink (variable speed)<br>Chassis fan            |
|         | Slots Supported             | Two (2) full-height expansion slots                                                             |
|         | Front I/O                   | (3) USB 2.0 ports, audio in/out jacks                                                           |
|         | Rear I/O                    | (4) USB 2.0 ports, RJ-45 network port, VGA video port, audio in/out jacks, microphone jack      |
|         | Drive Bays                  | One (1) 5-1/4" external<br>One (1) 3-1/2" internal                                              |
|         | Internal Speaker            | N/A                                                                                             |
|         | Security                    | Padlock loop<br>Kensington Lock Support<br>Support for chassis padlocks and cable lock devices  |
|         | Power Supply                | 180-watt ATX Power Supply - PFC/non-PFC with a 115v/230v line switch (varies by country/region) |
|         |                             |                                                                                                 |

### Unit Environment and Operating Conditions

#### General Unit Operating Guidelines

- Keep the computer away from excessive moisture, direct moisture and the extremes of heat and cold, to ensure that unit is operated within the specified operating range.
- Leave a 4 in (10.2 cm) clearance on all vented sides of the computer to permit the required airflow.
- Never restrict airflow into the computer by blocking any vents or air intakes.
- Do not stack computers on top of each other or place computers so near each other that they are subject to each other's re-circulated or preheated air.
- Occasionally clean the air vents on the front, back, and any other vented side of the computer. Lint, dust and other foreign matter can block the vents and limit the airflow.
- If the computer is to be operated within a separate enclosure, intake and exhaust ventilation must be provided on the enclosure, and the same operating guidelines listed above will still apply.

|                                  |               |                                        |
|----------------------------------|---------------|----------------------------------------|
| Temperature Range                | Operating     | 32° to 104° F (0° to 40° C)            |
|                                  | Non-operating | -22° to 149° F (-30° to 65° C)         |
| Relative Humidity                | Operating     | 10% to 90% (non-condensing at ambient) |
|                                  | Non-operating | 5% to 95% (non-condensing at ambient)  |
| Maximum Altitude (unpressurized) | Operating     | 10,000 ft (3048 m)                     |
|                                  | Non-operating | 30,000 ft (9000 m)                     |

**NOTE:** Operating temperature is de-rated 1.0 deg C per 1000 ft (300 m) to 10,000 ft (3000 m) above sea level, no direct sustained sunlight. Maximum rate of change is 10 deg C/Hr. The upper limit may be limited by the type and number of options installed.



### System Details

|              |                          |                                                                                                                                                                                                                                                                                                                                                |
|--------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Board | Processor                | Socket AM3; industry standard Micro ATX form factor<br>Supports AMD Phenom™ II Quad and Dual Core processors, AMD Athlon™ II Quad, Triple, and Dual Core processors                                                                                                                                                                            |
|              | PWM                      | ISL6312 - 3 Phase                                                                                                                                                                                                                                                                                                                              |
|              | Chipset                  | AMD 760G                                                                                                                                                                                                                                                                                                                                       |
|              | Super I/O                | IT8758E                                                                                                                                                                                                                                                                                                                                        |
|              | Front Side Bus Frequency | HT3 (up to 5.2GT/s)                                                                                                                                                                                                                                                                                                                            |
|              | Memory                   | DDR3 SDRAM<br>2 x DIMM slots                                                                                                                                                                                                                                                                                                                   |
|              | Clock Generator          | SLG8LP625TTR                                                                                                                                                                                                                                                                                                                                   |
|              | Integrated Graphics      | ATI Radeon 3000                                                                                                                                                                                                                                                                                                                                |
|              | Audio                    | ALC662-VC1 5.1 channel codec                                                                                                                                                                                                                                                                                                                   |
|              | LOM                      | Realtek RTL8105E 10/100 Fast Ethernet controller                                                                                                                                                                                                                                                                                               |
|              | Storage                  | Four Serial ATA interfaces (hard drive and optical drive)                                                                                                                                                                                                                                                                                      |
|              | Expansion Slots          | 2 x PCIe x1 slots                                                                                                                                                                                                                                                                                                                              |
|              | BIOS                     | SPI EEPROM                                                                                                                                                                                                                                                                                                                                     |
|              | Industrial Standard      | PCI 2.3 compliant<br>USB 2.0                                                                                                                                                                                                                                                                                                                   |
|              | Rear Side I/O Ports      | 4 x USB 2.0 ports<br>1 x RJ-45 10/100 port<br>1 x D-sub 15 pin analog VGA port<br>3 x audio ports                                                                                                                                                                                                                                              |
|              | On Board I/O Interfaces  | 1 x ATX power connector<br>1 x +12V power connector<br>1 x Front panel connector, Switch, LED (ON/Flash/OFF)<br>2 x Fan headers for CPU, chassis, with voltage/fan speed control<br>1 x header to support 2 USB 2.0 ports at front side<br>1 x header to support 2 front (Headphone/Mic) audio ports<br>1 x header to support USB media reader |
|              | Board Size               | Micro-ATX, PCB Size: 9.6 x 9.6 in (24.38 x 24.38 cm)<br>4-layer PCB with green color                                                                                                                                                                                                                                                           |
|              | Additional Features      | <ul style="list-style-type: none"> <li>● Bootable without keyboard, mouse or monitor</li> <li>● Keyboard/mouse/USB wake up</li> <li>● Support S3, S4 and S5</li> <li>● ACPI status</li> <li>● Hardware monitor capability</li> <li>● CPU fan speed control</li> </ul>                                                                          |

|                   |                                                                   |                                 |                                                                                                                                                                                                  |
|-------------------|-------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network Interface | Integrated Realtek<br>RTL8105E 10/100 Fast<br>Ethernet Controller | Hardware Highlights<br>Features | PCIe x1 interface<br>10-Mbps and 100-Mbps operation<br>Crossover detection and auto-correction<br>Wake-on-Lan and remote Wake-up (Wake-on-LAN supported from S3, S4 only. Not supported from S5) |
|-------------------|-------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



System Details

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                 |                                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Power Supply                         | <ul style="list-style-type: none"><li>● ATX Power Supply - Passive PFC/non-PFC with a 115v/230v line switch</li><li>● Passive Power Factor Correction (PFC) - with line switch set to 230V - No PFC in 115V line switch position</li><li>● 90 to 140VAC, or 180 to 264VAC operating voltage range</li><li>● 100 to 127VAC, or 200 to 240VAC rated voltage range</li><li>● 50-60 Hz rated line frequency</li><li>● 47-63 Hz operating line frequency range</li><li>● 180 watt maximum rated power</li><li>● 80-mm power supply fan - variable speed for optimum acoustics</li></ul> |                                                                                                                                                                                                                                                                                                                 |                                                                                                    |
| Power Conservation<br>'Energy Saver' | <ul style="list-style-type: none"><li>● APM 1.2 support</li><li>● Screen blanking</li><li>● Hard drive 'Idle' mode</li><li>● System Idle mode</li><li>● ~2 watt power consumption in ES mode - suspend to RAM (S3) (instantly available PC)</li><li>● Processor/Cache memory power-down (S3)</li><li>● Eup Lot 6 - less than 1W with BIOS setup option (Max power savings)</li></ul>                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                 |                                                                                                    |
| System Environmental<br>Specs        | <ul style="list-style-type: none"><li>● Values are subject to change without notification and are for reference only.</li><li>● Performance of system, options, and ancillary equipment will vary depending on the system configuration.</li><li>● Levels presented do not account for non-HP/Compaq installed hardware.</li></ul>                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                 |                                                                                                    |
| Ambient Air Temperature              | Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 32° to 104° F (0° to 40° C) at sea level with an altitude de-rating of 1.0°C per every 1000 ft (300 m) above sea level to a maximum of 8000 ft (2500 m), no direct sustained sunlight. Maximum rate of change is 77°F/Hr (25°C/Hr). The upper limit may be limited by the type and number of options installed. |                                                                                                    |
|                                      | Storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -22° to 149° F (-30° to 65° C)<br>Maximum rate of change: 410°F/Hr (210°C/Hr).                                                                                                                                                                                                                                  |                                                                                                    |
|                                      | Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Operating                                                                                                                                                                                                                                                                                                       | 10% to 90% relative humidity (Rh), 86°F (30°C) maximum wet bulb temperature, non-condensing.       |
|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Storage                                                                                                                                                                                                                                                                                                         | 10% to 95% relative humidity (Rh), 101.66°F (38.7°C) maximum wet bulb temperature, non-condensing. |
| Altitude                             | Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0 to 10,000 feet (0 to 3048 meters) - This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1,000 ft/min (304.8 m/min).                                                                                                                              |                                                                                                    |
|                                      | Non-Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0 to 30,000 feet (0 to 9,144 meters) - Maximum allowable altitude change rate is 1200 ft/min (365.76 m/min).                                                                                                                                                                                                    |                                                                                                    |

System Details

|           |                                                                                                                                                                                                               |                                                                                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shock     | Listed are the levels of shock the product can withstand with NO damage being incurred. The values represent peak input acceleration during a 2 to 3 ms half-sine shock pulse, 11 ms trapezoidal shock pulse. |                                                                                                                                                                                   |
|           | Non-Operating                                                                                                                                                                                                 | 35G's (Half-sine Shock)<br>35G's (Trapezoidal Shock)                                                                                                                              |
| Vibration | Listed are the levels of vibration the product can withstand with NO damage being incurred. The values represent a flat random vibration input acceleration profile across the given frequency range.         |                                                                                                                                                                                   |
|           | Operating                                                                                                                                                                                                     | Random vibration at 5Hz@0.00025G <sup>2</sup> /Hz, 10Hz@0.01G <sup>2</sup> /Hz, 100Hz@0.01G <sup>2</sup> /Hz, 300Hz@0.00001G <sup>2</sup> /Hz<br>5Hz to 300Hz, (0.25G's nominal). |
|           | Non-Operating                                                                                                                                                                                                 | Random vibration at 0.008G <sup>2</sup> /Hz, 10Hz to 500Hz, (2 Grms nominal).                                                                                                     |

Service and Support

On-site Warranty<sup>Note 1</sup>: One-year (1-1-0) limited warranty delivers one year of on-site; (1-1-1) on selected countries, next business-day<sup>Note 2</sup> service for parts and labor and includes free telephone support<sup>Note 3</sup> 24 x 7. Global coverage<sup>Note 2</sup> ensures that any product purchased in one country and transferred to another non-restricted country will remain fully covered under the original warranty and service offering. One-year onsite and labor are not available in all countries.

**NOTE 1:** Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.

**NOTE 2:** On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.

**NOTE 3:** Technical telephone support applies only to HP-configured Compaq and third-party HP-qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.

### Memory

#### DDR SYNCH DRAM NON-ECC MEMORY

AMD 760G chipset supports non-ECC DDR3 memory up to PC3-10600 (1333-MHz). Memory upgrades are accomplished by adding single or dual DIMMs of the same or varied sizes. This chart does not represent all possible memory configurations.

**CAUTION:** You must shut down the computer and **disconnect the power cord** before adding or removing memory modules. Regardless of the power-on state, voltage is always supplied to the memory modules as long as the computer is plugged in to an active AC outlet. Adding or removing memory modules while voltage is present may cause irreparable damage to the memory modules or system board.

**HP recommends dual-channel symmetric configurations for maximum performance.**

For best performance, add the same amount of total memory to each channel and do not mix speeds. For dual-channel symmetric performance, the total amount of memory in each channel must be equal. If speeds are mixed, speed will default to the slowest DIMM.

#### STANDARD MEMORY

1-GB, 2-GB, 3-GB or 4-GB DDR3 SYNCH DRAM

#### OPTIONAL MEMORY UPGRADES

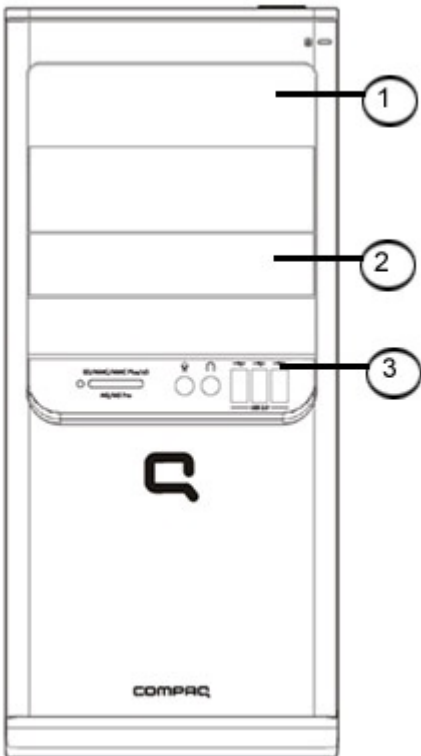
Supports up to 4 GB of DDR3 SYNCH DRAM. Not all memory configurations possible are represented below.

**NOTE:** For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.

| DIMM Size                     | Slot 1 | Slot 2 |
|-------------------------------|--------|--------|
| 1-GB                          | 1-GB   |        |
| 2-GB (dual-channel symmetric) | 1-GB   | 1-GB   |
| 3-GB                          | 1-GB   | 2-GB   |
| 3-GB                          | 2-GB   | 1-GB   |
| 4-GB (dual-channel symmetric) | 2-GB   | 2-GB   |



Storage



|                               | Maximum Quantity Supported | Controller   |
|-------------------------------|----------------------------|--------------|
| 1. Optical Drive              | 1                          | SATA         |
| 2. 3.5" Serial ATA Hard Drive | 1                          | SATA         |
| 3. Front I/O                  | 3                          | USB 2.0 port |
|                               | 1                          | Media Reader |

Technical Specifications - Audio

|                                    |                     |                                                                                                                                                     |
|------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated Realtek<br>ALC662 Audio | Type                | Integrated                                                                                                                                          |
|                                    | HD Audio compatible | Yes                                                                                                                                                 |
|                                    | codec               | 5:1 channel                                                                                                                                         |
|                                    | Sampling            | Supports 48/96 KHz                                                                                                                                  |
|                                    | Audio Jacks         | Mic-In                                                                                                                                              |
|                                    |                     | Line-In                                                                                                                                             |
|                                    |                     | Line-Out / Headphone Out                                                                                                                            |
|                                    | Power Support       | Digital: 3.3V                                                                                                                                       |
|                                    |                     | Analog: 5V                                                                                                                                          |
|                                    | Other               | Meets performance requirements for audio on PC99/2001 systems<br>High-performance DACs with 97dB SNR(A-Weighting)<br>ADCs with 90dB NR(A-Weighting) |



## Technical Specifications - Communications

Integrated Realtek  
RTL8105E 10/100 Fast  
Ethernet Controller

|                         |                                            |
|-------------------------|--------------------------------------------|
| Controller              | 8105E                                      |
| Memory                  | N/A                                        |
| Data rates supported    | 2.5GHz data rate with X1 link width        |
| Compliance              | IEEE802.3, IEEE 802.3u, IEEE 802.3ab       |
| Bus architecture        | PClexpress 1.1                             |
| Data transfer mode      | Half/Full Duplex Operation                 |
| Hardware certifications | MS NDIS5, IPv4, Ipv6, TCP, UDP             |
| Boot ROM support        | EEPROM, 1Kb, 2Kb                           |
| Network transfer rate   | 10/100Mbps over CAT.5<br>10Mbps over CAT.3 |
| Dimensions              | 9mm x 9mm                                  |
| Management capabilities | ACPI rev 2.0, PM rev 1.1, ASPM v1.0a       |



### Technical Specifications - Input Devices

|                              |                          |                                                     |                                                         |
|------------------------------|--------------------------|-----------------------------------------------------|---------------------------------------------------------|
| Compaq USB Standard Keyboard | Physical characteristics | Keys                                                | 104, 105, 106, 107, 109 layout (depending upon country) |
|                              |                          | Dimensions (L x W x H)                              | 18.14 x 1.07 x 6.02 in (46.1 x 2.74 x 15.3 cm)          |
|                              |                          | Weight                                              | 1.3lb(0.6 kg) minimum                                   |
|                              | Electrical               | Operating voltage                                   | + 5VDC $\pm$ 5%                                         |
|                              |                          | Power consumption                                   | 50-mA maximum (with three LEDs ON)                      |
|                              |                          | ESD                                                 | CE level 4, 12.5-kV air discharge                       |
|                              |                          | EMI - RFI                                           | Conforms to FCC rules for a Class B computing device    |
|                              | Mechanical               | Microsoft PC 99 - 2001                              | Functionally compliant                                  |
|                              |                          | Languages                                           | 40 available                                            |
|                              |                          | Keycaps                                             | Silm design                                             |
|                              |                          | Switch actuation                                    | 60-g nominal peak force with tactile feedback           |
|                              |                          | Switch life                                         | 10 million keystrokes (using Hasco modified tester)     |
|                              |                          | Switch type                                         | Contamination-resistant switch membrane                 |
|                              |                          | Key-leveling mechanisms                             | N/A                                                     |
|                              |                          | Cable length                                        | 1.5 m                                                   |
|                              |                          | Microsoft PC 99 - 2001                              | Mechanically compliant                                  |
|                              | Environmental            | Acoustics                                           | 50-dBA maximum sound pressure level                     |
|                              |                          | Operating temperature                               | 50° to 122° F (10° to 50° C)                            |
|                              |                          | Non-operating temperature                           | -22° to 140° F (-30° to 60° C)                          |
|                              |                          | Operating humidity                                  | 10% to 90% (non-condensing at ambient)                  |
|                              |                          | Non-operating humidity                              | 20% to 80% (non-condensing at ambient)                  |
|                              |                          | Operating shock                                     | 40g, six surfaces                                       |
|                              |                          | Non-operating shock                                 | 80g, six surfaces                                       |
|                              |                          | Operating vibration                                 | 2-g peak acceleration                                   |
|                              |                          | Non-operating vibration                             | 4-g peak acceleration                                   |
|                              |                          | Drop (out of box)                                   | 30 in (76 cm) on carpet, 5-drop sequence                |
|                              |                          | Drop (in box)                                       | 30 in (76 cm) on rigid surface, 10-drop sequence        |
|                              | Approvals                | ULcUL, FCC, CE, TUV/Bauart, VCCI, BSMI, C-Tick, KCC |                                                         |
|                              | Ergonomic compliance     | N/A                                                 |                                                         |



## Technical Specifications - Input Devices

|                                             |                                                 |                                             |
|---------------------------------------------|-------------------------------------------------|---------------------------------------------|
| Compaq USB 2-Button<br>Optical Scroll Mouse | Scroll Wheel                                    | 24                                          |
|                                             | Maximum Rotation Speed                          | 48 rats/sec                                 |
|                                             | Switch Type                                     | wheel                                       |
|                                             | Switch Life                                     | Button - 1,000,000<br>Wheel - 200,000 times |
| Environmental                               | Operating Temperature                           | 32° to 104° F (0° to 40° C)                 |
|                                             |                                                 | -4° to 140° F (-20° to 60° C)               |
|                                             | Operating Humidity                              | 10% to 90% (non-condensing at ambient)      |
|                                             |                                                 | 20% to 80% (non-condensing at ambient)      |
|                                             | Operating Shock                                 | 40 g, six surfaces                          |
|                                             |                                                 | 80 g, six surfaces                          |
|                                             | Operating Vibration                             | 2-g peak acceleration                       |
|                                             |                                                 | 4-g peak acceleration                       |
|                                             | Operating Voltage                               | 4.35V-5.25V DC                              |
|                                             |                                                 | <100mA                                      |
|                                             | MTBF                                            | > 150,000 hrs                               |
|                                             |                                                 | ESD                                         |
| Electrical                                  | EMI-RFI                                         | FCC Class B                                 |
|                                             |                                                 | PC 99 Compliant                             |
|                                             | Resolution                                      | 500±10% DPI                                 |
|                                             |                                                 | Tracking Speed                              |
|                                             | Acceleration                                    | 25 cm/sec                                   |
|                                             |                                                 | 0.5mm                                       |
|                                             | Switch Actuation                                | 0.6N (60gf)                                 |
|                                             |                                                 | Switch Life                                 |
|                                             | Cable Length                                    | Button - 1,000,000<br>Wheel - 200,000 times |
|                                             |                                                 | 1.8m                                        |
|                                             | PC98-99                                         | PC99 compliant                              |
|                                             |                                                 | Regulatory Approvals                        |
| Regulatory Approvals                        | ULcUL, FCC, CE, TUV/GS, VCCI, BSMI, C-Tick, MIC |                                             |



## Technical Specifications - Hard Drives

|                                      |        |                                                                             |                                                                   |        |
|--------------------------------------|--------|-----------------------------------------------------------------------------|-------------------------------------------------------------------|--------|
| Serial ATA Hard Drives<br>(7200 rpm) | 750 GB | Capacity                                                                    | 720,176,893,706 bytes                                             |        |
|                                      |        | Height                                                                      | 1 in (2.54 cm)                                                    |        |
|                                      |        | Width                                                                       | Media diameter: 3.5 in (8.89 cm)<br>Physical size: 4 in (10.2 cm) |        |
|                                      |        | Interface                                                                   | Serial ATA (3.0 Gb/s)                                             |        |
|                                      |        | Synchronous Transfer Rate (Maximum)                                         | 3.0 Gb/s                                                          |        |
|                                      |        | Buffer                                                                      | 8 MB                                                              |        |
|                                      |        | Seek Time (typical reads, includes controller overhead, including settling) | Single Track                                                      | 2.0 ms |
|                                      |        |                                                                             | Average                                                           | 11 ms  |
|                                      |        |                                                                             | Full-Stroke                                                       | 21 ms  |
|                                      |        | Rotational Speed                                                            | 7,200 rpm                                                         |        |
|                                      |        | Logical Blocks                                                              | 976,773,168                                                       |        |
|                                      |        | Operating Temperature                                                       | 41° to 131° F (5° to 55° C)                                       |        |
|                                      |        |                                                                             |                                                                   |        |
|                                      | 640 GB | Capacity                                                                    | 640,138,063,380 bytes                                             |        |
|                                      |        | Height                                                                      | 1 in (2.54 cm)                                                    |        |
|                                      |        | Width                                                                       | Media diameter: 3.5 in (8.9 cm)<br>Physical size: 4 in (10.2 cm)  |        |
|                                      |        | Interface                                                                   | Serial ATA (3.0 Gb/s)                                             |        |
|                                      |        | Synchronous Transfer Rate (Maximum)                                         | Up to 3 Gb/s                                                      |        |
|                                      |        | Buffer                                                                      | 8 MB                                                              |        |
|                                      |        | Seek Time (typical reads, includes controller overhead, including settling) | Single Track                                                      | 2.0 ms |
|                                      |        |                                                                             | Average                                                           | 11 ms  |
|                                      |        |                                                                             | Full-Stroke                                                       | 21 ms  |
|                                      |        | Rotational Speed                                                            | 7,200 rpm                                                         |        |
|                                      |        | Logical Blocks                                                              | 625,142,448                                                       |        |
|                                      |        | Operating Temperature                                                       | 41° to 131° F (5° to 55° C)                                       |        |
|                                      |        |                                                                             |                                                                   |        |
|                                      | 500 GB | Capacity                                                                    | 500,107,862,016 bytes                                             |        |
|                                      |        | Height                                                                      | 1 in (2.54 cm)                                                    |        |
|                                      |        | Width                                                                       | Media diameter: 3.5 in (8.89 cm)<br>Physical size: 4 in (10.2 cm) |        |
|                                      |        | Interface                                                                   | Serial ATA (3.0 Gb/s)                                             |        |
|                                      |        | Synchronous Transfer Rate (Maximum)                                         | 3.0 Gb/s                                                          |        |
|                                      |        | Buffer                                                                      | 8 MB                                                              |        |
|                                      |        |                                                                             |                                                                   |        |
|                                      |        |                                                                             |                                                                   |        |



## Technical Specifications - Hard Drives

|        |                                                                                    |                                                                  |        |
|--------|------------------------------------------------------------------------------------|------------------------------------------------------------------|--------|
| 320 GB | <b>Seek Time</b> (typical reads, includes controller overhead, including settling) | <b>Single Track</b>                                              | 2.0 ms |
|        |                                                                                    | <b>Average</b>                                                   | 11 ms  |
|        |                                                                                    | <b>Full-Stroke</b>                                               | 21 ms  |
|        | <b>Rotational Speed</b>                                                            | 7,200 rpm                                                        |        |
|        | <b>Logical Blocks</b>                                                              | 976,773,168                                                      |        |
|        | <b>Operating Temperature</b>                                                       | 41° to 131° F (5° to 55° C)                                      |        |
|        |                                                                                    |                                                                  |        |
|        | <b>Capacity</b>                                                                    | 320,072,933,376 bytes                                            |        |
|        | <b>Height</b>                                                                      | 1 in (2.54 cm)                                                   |        |
|        | <b>Width</b>                                                                       | Media diameter: 3.5 in (8.9 cm)<br>Physical size: 4 in (10.2 cm) |        |
|        | <b>Interface</b>                                                                   | Serial ATA (3.0 Gb/s)                                            |        |
|        | <b>Synchronous Transfer Rate</b> (Maximum)                                         | Up to 3 Gb/s                                                     |        |
|        | <b>Buffer</b>                                                                      | 8 MB                                                             |        |
|        | <b>Seek Time</b> (typical reads, includes controller overhead, including settling) | <b>Single Track</b>                                              | 2.0 ms |
|        |                                                                                    | <b>Average</b>                                                   | 11 ms  |
|        |                                                                                    | <b>Full-Stroke</b>                                               | 21 ms  |
|        | <b>Rotational Speed</b>                                                            | 7,200 rpm                                                        |        |
|        | <b>Logical Blocks</b>                                                              | 625,142,448                                                      |        |
|        | <b>Operating Temperature</b>                                                       | 41° to 131° F (5° to 55° C)                                      |        |



## Technical Specifications - Optical Storage

|                                                       |                                                     |                                                       |                                                                                            |                                                 |  |
|-------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------|--|
| HP SATA SuperMulti<br>LightScribe DVD Writer<br>Drive | Height                                              | 5.25-inch, half-height, tray-load                     |                                                                                            |                                                 |  |
|                                                       | Orientation                                         | Either horizontal or vertical                         |                                                                                            |                                                 |  |
|                                                       | Interface type                                      | SATA/ATAPI                                            |                                                                                            |                                                 |  |
|                                                       | Disc capacity                                       | 8.5 GB DL or 4.7 GB standard                          |                                                                                            |                                                 |  |
|                                                       | Dimensions (W x H x D)                              | 5.9 x 1.7 x 8.0 in (15.0 x 4.4 x 20.3 cm)             |                                                                                            |                                                 |  |
|                                                       | Weight (max)                                        | 2.6 lb (1.2 kg)                                       |                                                                                            |                                                 |  |
|                                                       | Write speeds                                        | DVD-RAM                                               | Up to 12X                                                                                  |                                                 |  |
|                                                       |                                                     | DVD+R                                                 | Up to 16X                                                                                  |                                                 |  |
|                                                       |                                                     | DVD+RW                                                | Up to 8X                                                                                   |                                                 |  |
|                                                       |                                                     | DVD+R DL                                              | Up to 8X                                                                                   |                                                 |  |
|                                                       |                                                     | DVD-R DL                                              | Up to 8X                                                                                   |                                                 |  |
|                                                       |                                                     | DVD-R                                                 | Up to 16X                                                                                  |                                                 |  |
|                                                       |                                                     | DVD-RW                                                | Up to 6X                                                                                   |                                                 |  |
|                                                       |                                                     | CD-R                                                  | Up to 48X                                                                                  |                                                 |  |
|                                                       |                                                     | CD-RW                                                 | Up to 32X                                                                                  |                                                 |  |
|                                                       | Read speeds                                         | DVD-RAM                                               | Up to 12X                                                                                  |                                                 |  |
|                                                       |                                                     | DVD+R/-R/+RW/<br>-RW/+R DL /-R DL                     | Up to 8X                                                                                   |                                                 |  |
|                                                       |                                                     | DVD-ROM DL                                            | Up to 8X                                                                                   |                                                 |  |
|                                                       |                                                     | DVD-ROM, DVD+R,<br>DVD-R                              | Up to 16X                                                                                  |                                                 |  |
|                                                       |                                                     | CD-ROM, CD-R                                          | Up to 48X                                                                                  |                                                 |  |
|                                                       |                                                     | CD-RW                                                 | Up to 32X                                                                                  |                                                 |  |
|                                                       |                                                     | Access times<br>(typical reads, including<br>setting) | Random                                                                                     | DVD: < 140 ms (typical), CD: < 125 ms (typical) |  |
|                                                       |                                                     |                                                       | Full Stroke                                                                                | DVD: < 250 ms (seek), CD: < 210 ms (seek)       |  |
|                                                       | Power                                               | Source                                                | SATA DC power receptacle                                                                   |                                                 |  |
|                                                       |                                                     | DC Power Requirement                                  | 5 VDC ± 5%-100 mV ripple p-p<br>12 VDC ± 5%-200 mV ripple p-p                              |                                                 |  |
|                                                       |                                                     | DC Current                                            | 5 VDC - <1000 mA typical, < 1600 mA maximum<br>12 VDC -< 600 mA typical, < 1400 mA maximum |                                                 |  |
|                                                       | Environmental<br>(all conditions<br>non-condensing) | Temperature                                           | 41° to 122° F (5° to 50° C)                                                                |                                                 |  |
| Relative Humidity                                     |                                                     | 10% to 90%                                            |                                                                                            |                                                 |  |
| Maximum Wet Bulb<br>Temperature                       |                                                     | 86° F (30° C)                                         |                                                                                            |                                                 |  |



### Technical Specifications - Environmental Data

#### Eco-Label Certifications and declarations

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

| Energy Consumption     | 115 VAC    | 230 VAC    | 100 VAC |
|------------------------|------------|------------|---------|
| Normal Operation       | 37.40 W    | 37.00 W    | NA      |
| Sleep (low power mode) | 3.19 W     | 3.25 W     | NA      |
| Off                    | 1.77 W     | 1.83 W     | NA      |
| Heat Dissipation*      | 115 VAC    | 230 VAC    | 100 VAC |
| Normal Operation       | 128 BTU/hr | 127 BTU/hr | NA      |
| Sleep                  | 11 BTU/hr  | 11 BTU/hr  | NA      |
| Off                    | 6 BTU/hr   | 6 BTU/hr   | NA      |

\* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

#### Declared Noise Emissions

(in accordance with ISO 7779 and ISO 9296)

|                            | Sound Power<br>(LWAd, bels) | Sound Pressure<br>(LpAm, decibels) |
|----------------------------|-----------------------------|------------------------------------|
| System Fan Off             |                             |                                    |
| Idle                       | 4.2                         | 30                                 |
| Fixed Disk (random writes) | 4.5                         | 33                                 |

#### Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight

Battery size: CR2032 (coin cell)

Battery type: Lithium

#### Additional Information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive – 2002/95/EC.
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 0% post consumer recycled plastic (by wt.)
- This product is 90% recyclable when properly disposed of at end of life.

#### Packaging Materials

- External:
  - Corrugated 1680 g
- Internal:
  - EPE- Expanded Polyethylene 115 g



### Technical Specifications - Environmental Data

- Polyethylene low density 40 g
- The Corrugated packaging material is made from 80% recycled content.
- The EPE- Expanded Polyethylene packaging material is made from 80% recycled content.
- The Polyethylene low density packaging material is made from 80% recycled content.

#### RoHS Compliance

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

#### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at:

[http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen\\_specifications.html](http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html)):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
- Nickel finishes that release greater than 0.5 micro-grams/cm<sup>2</sup>/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

#### Packaging

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

#### End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.



### Technical Specifications - Environmental Data

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/recyclers>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

#### Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Eco-label certifications

<http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html>

ISO 14001 certificates:

<http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html>

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